

What is claimed is:

1. An aluminum electrolytic capacitor comprising:

an internal lead having one end coupled to an electrode foil and the other end having a through-hole;

5 a spacer in contact with the other end of said internal lead 2 and having a through-hole in the contact portion;

a terminal plate having a through-hole for fixing said internal lead;

an external terminal fixed to said terminal plate; and

10 an aluminum rivet penetrating through said external electrode, said terminal plate, said spacer, and said internal lead, a tip portion of said rivet capable of being upset;

wherein said internal lead has a cylindrical portion around the through-hole Of said internal lead.

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2. The aluminum electrolytic capacitor of Claim 1, further comprising a metal case for containing the electrode foil and said internal lead, wherein said metal case is sealable by drawing an opening of said metal case around a periphery of said terminal plate.

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3. The aluminum electrolytic capacitor of Claim 1, comprising the cylindrical portion disposed in a space between said rivet and the through-hole of said spacer.

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4. The aluminum electrolytic capacitor of Claim 1, further comprising another spacer disposed between said internal lead and said terminal plate.

5. The aluminum electrolytic capacitor of Claim 1, wherein the cylindrical portion has an inner diameter substantially equal to an outer diameter of said rivet, and an outer diameter substantially equal to an inner diameter of the through-hole of said space.

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6. The aluminum electrolytic capacitor of Claim 1, wherein the cylindrical portion is formed by drawing a peripheral edge of the through-hole through said internal lead.

10 7. A method of manufacturing an aluminum electrolytic capacitor, using a punch having a smaller diameter part at a tip thereof, and a dice having a hole for receiving the smaller diameter part of the punch, said method comprising the steps of:

lowering the punch on one end of an aluminum internal
15 lead to form a small hole therethrough, the internal lead being coupled to one of a positive electrode foil and a negative electrode foil; and

successively lowering the punch to draw the small hole and form a cylindrical portion integral with the small hole.

20 8. The method of manufacturing an aluminum electrolytic capacitor of Claim 7, said aluminum electrolytic capacitor comprising: an external terminal, a terminal plate, a spacer, an internal lead, an aluminum rivet penetrating through above components for upsetting, said method comprising the step of:

25 forming the cylindrical portion on the internal lead, using the punch having a body part and the smaller diameter part, and the dice having a hole having an inner diameter slightly larger than the smaller diameter part of the punch, said step of forming the

cylindrical portion comprising the sub-steps of:

drilling a small hole through one end portion of the internal lead using the smaller diameter part of the punch; and

drawing the small hole to form the cylindrical
5 portion around the small hole, using the body part of the punch.

9. The method of manufacturing an aluminum electrolytic capacitor of Claim 8, wherein the smaller diameter part of the punch is fitted into the hole of the dice after said drilling sub-step, and
10 during said drawing sub-step, the state of being fitted into the hole is maintained.

10. The method of manufacturing an aluminum electrolytic capacitor of Claim 8, wherein said drawing sub-step is a step of
15 forming the internal lead into a cylindrical shape between a through-hole of the spacer and the body part of the punch.

11. The method of manufacturing an aluminum electrolytic capacitor of Claim 8, wherein an outer diameter of the smaller
20 diameter part of the punch is 40 to 70% of an outer diameter of the body part.

12. The method of manufacturing an aluminum electrolytic capacitor of Claim 7, wherein a diameter of the small hole is 40 to 70%
25 of an outer diameter of the aluminum rivet.

13. The method of manufacturing an aluminum electrolytic capacitor of Claim 8, wherein a taper is provided between the smaller

diameter part and the body part of the punch.

14. The method of manufacturing an aluminum electrolytic capacitor of Claim 8, further comprising an upsetting step, said
5 upsetting step using a rivet having a taper at a tip portion thereof, and comprising sub-steps of: inserting the tip portion of the rivet into the cylindrical portion, and upsetting the tip portion after insertion.